

Item #45: Change in Water Quality

Evaluation Objectives: To determine if changes are occurring in water quality (sediment, chemistry, and microbiology) due to land management activities.

Methods: Water quality has been monitored through the PACFISH/INFISH Biological Opinion (PIBO) program (see monitoring items 27 and 29). However, the PIBO program does not focus on chemistry and microbiology per se, but it does focus on water quality parameters that are considered to be more important such as sediment, temperature, and macroinvertebrate communities. In addition, water quality is monitored indirectly by tracking the implementation and effectiveness of Best Management Practices (BMPs). BMPs are the primary mechanism used by the Forest Service to protect water quality and maintain water quality standards. Therefore, the results of recent State BMP audits are reported.

Evaluation:

See monitoring items 27 and 29 for evaluations related directly to water quality. Best Management Practices, as defined by the State of Montana and the Forest Service Handbook are implemented on all projects involving ground disturbance. These practices are designed to provide direct protection of water quality. In addition, these practices safeguard water quality indirectly through protection of riparian zones, wetlands, springs, fens, and seeps. The Montana Department of Natural Resources (MDNRC) ensures implementation of BMPs through a biannual audit process. Through the audit process, BMPs have been shown to be effective in preventing sediment delivery 97 percent of the time, which means that eroded material does not reach draws, channels, or floodplains (MDNRC 2006). Sediment delivery is often the primary water quality concern related to land management activities on the Flathead National Forest. In 2008, the Mid-Logan and McGinnis timber sales on the Flathead National Forest were audited. The mid-Logan sale met all BMP requirements (a perfect score), while the McGinnis sale had one departure. However, this departure was located on an arterial road in close proximity to a stream where impacts could not be avoided.

Recommended Actions: This monitoring item should be combined with items 27 and 29, but references to water chemistry and microbiology should be removed. Sediment and temperature are more important metrics, and they are measured on a regular basis through the PIBO program.